## Work Order ID 105465

Jugust-06-13 11:05:17 AM

\*105465\*

 $P_{\rm dge}$ 

Item 1D: D3953-7 Accept \*N900040100\* Setup Start Revision 1D: Item Name: Spring Spacer \*40\* Start Date: 8/06/13 Start Oty: 40.00 Cust Item 1D: Required Date: 8/20/13 Req'd Qty: 40.00 **\***40\* **Customer:** Reference: Run Process Plan: ML5\_ Date: /3-08-06 Tooling: Approvais: Date: Stop QC: Date: SPC (Y/N): Date: Sequence ID/ Operation Tool # Plan Set Up/ Tool ID Accept Reject Reject Work Center ID Description Run Hours Qty Qty Code Number Stamp Draw Nbr Revision Nbr D3953 C 100 1.00 DP 13.8.15 45 4 \*100\* Hardinge 0.00 Memo Hardinge CNC Lathe Small TURN AS PER FOLIO FA854 & DWG DWG REV: DEBURR 110 20 13.8.15 45 \$ QC2- Inspect parts off machine FAI/FAIB 0.00 \*110\* QC 0.00 Memo Quality Control

											DQA:	Date	e:
NCR: Y	es .	/ No				WORK ORDER NON-C	O	<b>IFORM</b>	MANCE / UP	DATE	OA Classide	Date	
								<u></u>		<u> </u>	QA Closed:	Date	<del>:</del>
Work Orde	٥r.					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
	_					Rework	] <b> </b>		Skid-tube	Crosstube	]	Water Jet	Engineering
Part N	NO					Scrap	<b>∤  </b>		Machining	Small Fab	4	d. Eng. Coor.	Quality Other
NCR N	No					Use-as-is Thermoforming Finishing Work Order Update Large Fab Composite		Finishing Composite	Kec/Stol	e/Packaging Supplier	_ Other		
Root Desc				Doceri	ption of work order update	ᆛ	nitial	Λς:	tion	Sign &		<del></del>	
	ļ	Date	Step	Qty		or Non-conformance		ief Eng		ription	Date	Verification	QC Inspector
Cause Doc/Data	+	Date	Steh	Qty		or Noti-comormance	1011	iei Liig	Desc	приоп	Date	Vermedelon	Qe mapeetor
Equip/Tooling	Н												
Operator	H											1	
Material	H										<u> </u>		
Setup			!										
Other							l						
Process			ĺ										1
Supplier	П			İ			1						1
Training	П												
Unapproved											<u> </u>		
-						F	AUL	T CATE	GORY				·
Landi	ng G	ear				General		•			-		_
	[£	Bending				Bend		Grain			Ovalized	_	Pressure/Forced
	Ш	Centre No	ot Concei	ntric to	o/s	BOM/Route	-	Hardwa			Over/Under	<del>-</del>	Temperature/Cure
	—	Cracks				Broken/Damaged	<u></u>		on Incomplete	<u> </u>	Part Incorred	<del>-</del>	Weld
i	—	Crushed/0	Crimped		<u> </u>	Burrs	-		ions Incomplete/	Unclear	Part Lost/Mi	ssing	Wrong Stock Pulled
į	$\vdash$	Cuffs				Contamination	$\vdash$	Mainte		<u> </u>	Part Moved		
	Heat Treat		<u> </u>	Countersink	-	Mislabe		<u> </u>	Positioned V		¬		
Inspection Strip in Tube		Cut Too Short		Misread	3	<u> </u>	Power Loss/	Surge	Other				
'	$\vdash$	Ripples in			<u> </u>	Drill Holes		Offset					<del>_</del> .
	Torque Waves in Extrusion		Drawing	1	Out of (	Calibration							

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Finish Folio August-06-13 11:05:17 AM

Quality Control

Item ID: D3953-7 Accept \*N900040100\* Setup Start Revision ID: Item Name: Spring Spacer Start Date: 8/06/13 \*40\* Start Oty: 40.00 Cust Item 1D: Required Date: 8/20/13 Rea'd Otv: 40.00 \*40\* Customer: Reference: Run Process Plan: Approvals: Date: Tooling: Date: Date: SPC (Y/N): Date: Sequence ID/ Operation Set Up/ Tool ID Tool # Plan Reject Accept Reject Insp. Work Center ID Description **Run Hours** Code Otv Otv Number Stamp 120 OC8- Inspect parts - second check 0.00 \*120\* St13-08-15 45 8 0.00 Memo **Quality Control** 130 Identify as per dwg & Stock Location: 57076 0.00 45x M.W. 13-08-16 \*120\* Packaging 0.00 Memo Packaging 140 QC21- Final Inspection - Work Order Release 0.00 \*140\* \_ MCJ 13-08'21 0.00 Memo

Mr. 8.79

												DQA:	Da	ite:	
NCR:	Yes	/ No				WORK ORDER NON-C	10:	<b>NFORM</b>	MANCE / UP	DATE					
	_										QA C	losed:	Da	ite:	
344 - J. G J			-			DISPOSITION				AGAINST DE	PART	MENT	/PROCESS		
Work Ord	er: ˌ	<del></del>				Rework	ıl		Skid-tube	Crosstube	1	Water Jet			Engineering
Part No.				Scrap			Machining	Small Fab	┨	Pro	d. Eng. Coor.		Quality		
Part No.				Use-as-is			noforming	Finishing	l Re		re/Packaging	-	Other		
NCR	No.					Work Order Update			Large Fab	Composite	1		Supplier	-	
															·
Root				_	Descri	ption of work order update	1	nitial	Ac	tion	Sig	n &			
Cause		Date	Step	Qty		or Non-conformance	Ch	ief Eng	Desc	ription	D	ate	Verificatio	n	QC Inspector
Doc/Data	Ш														
Equip/Tooling	<u> </u>	i.	}	ļ			İ								
Operator	Щ		1												
Material	Ш										Ì				
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Other	$\sqcup$											!			
Process	_														
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Training	$\vdash$											•			
Unapproved			l				1	<del></del>		·	<u> </u>				<u></u>
							AUL	T CATE	GORY						<del></del>
Landi	ing (	1			Γ_	General		1		_	Ovali				Pressure/Forced
	$\vdash$	Bending			_  _	Bend	-	Grain		F	-		tolerance	$\vdash$	Temperature/Cure
	Centre Not Concentric to O/S			<sup>0/S</sup>  -	BOM/Route	-	Hardwa		<b>-</b>	-1			<b> </b>	Weld	
	-	Cracks			<u> </u>	Broken/Damaged	-	4	ion Incomplete		-	ncorre		-	4
	-	Crushed/	Crimped		<u> </u>	Burrs	_	4	ions Incomplete/	Unclear	-1	Lost/Mi	1221LIR	Щ	Wrong Stock Pulled
	$\vdash$	Cuffs		•	-	Contamination	-	Mainte		<b>—</b>		Moved	11		
	<b></b>	Heat Trea			<u> </u>	Countersink	-	Mislabe		<u> </u>	-1	ioned V	<del>-</del>		اما
	Inspection Strip in Tube			Tube	- 1	Cut Too Short		lMisread	<del>'</del>		IPowe	er Loss/	Surge	1	Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

### Uncknised (The

Jugusi-06-13 11.05.21 AM

Work Order 1D: 105465

D3953-7

Parent Item Name: Spring Spacer

\*105465\* \*D3953-7\*

Start Date: 8/06/13

Required Date: 8/20/13

Start Oty: 40.00

Required Oty: 40.00

Comments:

Parent Item:

IPP RevA: New issue DD verified by:EC

revC DD 10.03.02 verified by:EC

IPP Rev:B as per dwg

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MDELRINR0.750		Purchased	No		-	100	ſ	45.0530	0.05	2.105263	_	••	
*MDFI RIN	JR0 750	)*							**				

Delrin Round Bar 0.75"

Location	Loc Oty	Loc Code	
MAT018	45.053		
116183	4.8		
117273	4.665	<del></del>	
117322	0.94	<del></del>	
121783	27.49		
124957	7.158	<del></del>	
		<del></del>	_

12659/

NCR:	Yes	/ No				WORK ORDER NON-O	100	NFORM	MANCE / UPI	DATE			
											QA Closed	: Dat	e:
Work Ord	er:					DISPOSITION		•		AGAINST D	EPARTMENT	/PROCESS	
Part !	- ِ No.					· — — •		f Therm	Skid-tube Crosstube  Machining Small Fab  rmoforming Finishing		Prod. Eng. Coo Rec/Store/Packagin		Engineering Quality Other
NCR No.				Work Order Update Large Fab Composite			composite	_	Supplier				
Root		·			Descri	ption of work order update	Π	nitial	Act	ion	Sign &		
Cause		Date	Step	Qty		or Non-conformance	Ch	ief Eng	Descr	ription	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved										·			
						F	AUI	T CATE	GORY				
Land	ing G	ear				General					_	-	_
	Bending Centre Not Concentric to O/S Cracks Crushed/Crimped Cuffs Heat Treat Inspection Strip in Tube		Bend BOM/Route Broken/Damaged Burrs Contamination Countersink		Grain Hardware Inspection Incomplete Instructions Incomplete/Un Maintenance Mislabeled		Jnclear	Ovalized Over/Under tolerance Part Incorrect Part Lost/Missing Part Moved Positioned Wrong		Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other			
	$\vdash$	1		edui	$\vdash$	Cut Too Short Drill Holes	$\vdash$	Misread Offset	1	<u> </u>	Power Loss	, 2018c [	Totalei
	$\vdash$	Ripples in		Evtrucion	, ⊢	Drawing	-	4	Calibration		<del></del>		<del></del>
1	Torque Waves in Extrusion Turning Sequence		Finish		4	Sequence							

Outside Dimensions

DQA:

Date:

Wave/Twist in Tube

Folio

DART AEROSPACE LTD_	Work Order:	105465
Description: Gas Spring Spacer	Part Number:	D3953-7
Inspection Dwg: D3953 Rev: C		Page 1 of 1

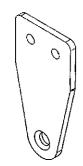
# FIRST ARTICLE INSPECTION CHECKLIST

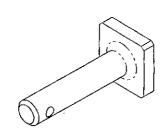
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.63	+/-0.030	.63		-	PAP. 02	
Ø0.257	+0.006/-0.001	-260		-		
0.37	+0.000/-0.030	- 356				
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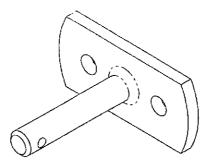
<del>,</del>					
Measured by:	<b>P</b> Q	Audited by:	S	Preliminary Approval:	
Date:	13.5.15	Date:	13-08-15	Date:	

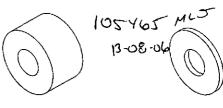
Rev	Date	Change	Revised by	Approved
Α	09.10.22	New Issue	KJ	
В	09.12.14	Dwg Rev updated	KJ	
С	10.06.07	Tolerance revised for dimension 0.37	KJ SEA	<i>M</i>
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D3953-1 GAS SPRING BRACKET (FULL LID)

С

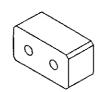
В

D3953-3 GAS SPRING STUD, LID

D3953-5 GAS SPRING STUD, BASE

D3953-7 GAS SPRING SPACER D3953-9 GAS SPRING WASHER C











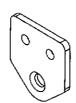
**D3953-11 GAS SPRING SPACER** 

D3953-13 GAS SPRING SPACER (FULL LID)

D3953-15 GAS SPRING BRACKET (SPLIT LID)

D3953-17 GAS SPRING SPACER (SPEIT LID)

D3953-19 GAS SPRING BRACKET (SQUARE BASKET)



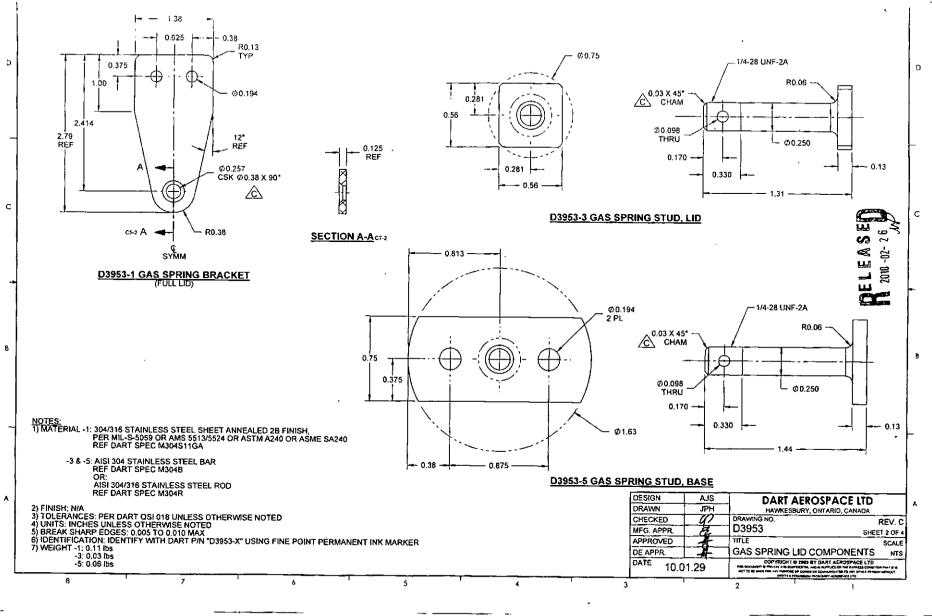
D3953-21 GAS SPRING BRACKET (SQUARE BASKET)

△

		<u>Æ</u>		
С	PARTS -19 & -21 ADDED (SHT 18 CHAM (C6-2, 86-3, C6-4); © SYN (C7-2, C7-4); SECTION C-C REPO REASON: ADDL PARTS REQD, D	AM WAS & SYM ABOUT OSCHONED TO BOW	JPH	10.01.29
В	SHEET 3 ZONE C1, DIM 0.05 MIN DIMENSIONS MINMAX REMOVE REASON DIFFICULTY INSTALLI ASSY.	D TOLERANCE ADDED	AIS	09 11.11
Α	NEWISSUE		AJS	09.07,27
REV.	DESCRIP	TION	BY	DATE
DESIG	N AJS	DART AFROSPA	CFI	T)

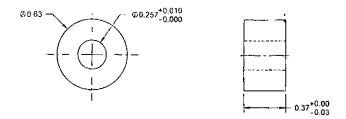
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DRAWN	JPH	HAWKESBURY, ONTARIO, CANADA						
CHECKED	a	DRAWING NO.	REV. C					
MFG. APPR.	E.	D3953	SHEET 1 OF 4					
APPROVED	<del>-//-</del>	TITLE	SCALE					
DE APPR.	-#	GAS SPRING LID						
DAYE 10.0	1.29	COPYRIGHT © 2905 BY DART AEROSPACE LTD THE DOCUMENT IN TRAIT, AND EXEMPLE THE DIFFERENCE OF THE THAILD IT IS						

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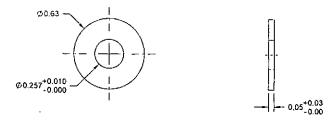


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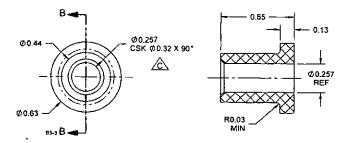
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### **D3953-7 GAS SPRING SPACER**

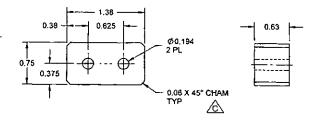


### **D3953-9 GAS SPRING WASHER**



**D3953-11 GAS SPRING SPACER** 

SECTION B-B 87-3



### **D3953-13 GAS SPRING SPACER**

NOTES: 1) MATERIAL -7,-9 & -11: DELRIN IL 15DE OR ACETRON GP ACETAL, BLACK
1) MATERIAL -7,-9 & -11: DELRIN II 150E OR ACETRON GP ACETAL, BLACK REF DART SPEC M-DELRIN-R
THE DARK SPECIM-DELKINAR

-13: AISI 304 STAINLESS STEEL BAR REF DART SPEC M304B

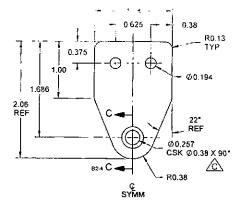
- 2) FINISH: N/A
  3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  4) UNITS: INCHES UNLESS OTHERWISE NOTED
  5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  6) IDENTIFICATION -13 ONLY: IDENTIFY WITH DART P/N "D3953-13" USING FINE POINT PERMANENT INK MARKER
  7) WEIGHT -7/-9/-11: < 0.01 lbs EACH
  -13: 0.17 lbs

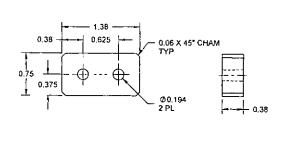
DESIGN DRAWN	AJS JPH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	9	DRAWING NO.	REV. C
MFG. APPR.	E.	D3953 SHEE	7 3 OF 4
APPROVED	-1,	TITLE	SCALE
DE APPR.	#	GAS SPRING LID COMPONENTS	RTS
DATE 10.0	1.29	COPYRIGHT © 2009 BY DART AEROSPACE LTD This procured in refer to an interference with a procure on the presence conference and to all distance are purposed on command and power-security to any of right register.	TWALE ES

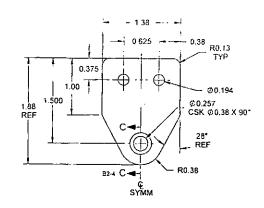
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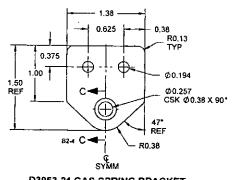


D3953-15 GAS SPRING BRACKET (SPLIT LID)

D3953-17 GAS SPRING SPACER (SPLIT LID)

D3953-19 GAS SPRING BRACKET (SQUARE BASKET)







D3953-21 GAS SPRING BRACKET (SQUARE BASKET)

<u></u>

SECTION C-C

DESIGN	AJS	DART AEROSPACE LTD		
DRAWN	JPH	HAWKESBURY, ONTARIO, CANADA		
CHECKED	(I)	DRAWING NO.	REV. C	
MFG. APPR.	3	D3953 <sub>SH</sub>	EET 4 OF 4	
APPROVED	#	TITLE	SCALE	
DE APPR.	-#-	GAS SPRING LID COMPONENTS		
DATE 10.0	1.29	COPYRIGHT IS 2909 BY DART AEROSPACE LTD  THE EXCLUSION OF PRIMATE AND CONTROL AND EXCRETE THE LEVELS CONTROL OF THE LEVELS OF THE PRIMATE OF THE LEVELS OF T		

NOTES: 1) MATERIAL -15/-19/-21: 304/316 STAINLESS STEEL SHEET ANNEALED 2B FINISH, PER MIL-S-5059 OR AMS 5513/5524 OR ASTM A240 OR ASME SA240 REF DART SPEC M304S11GA

-17: AISI 304 STAINLESS STEEL BAR REF DART SPEC M304B

2) FINISH: NIA
3) TOLERANCES: PER DART OSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3953-X" USING FINE POINT PERMANENT INK MARKER
7) WEIGHT -15: 0.08 bs

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-17: 0.10 lbs -19: 0.07 lbs

-19: 0.07 to -21: 0.06 lbs

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